



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,294	04/14/2005	Nozomi Gotou	DK-US055070	4824
22919 7590 06/08/2009 GLOBAL IP COUNSELORS, LLP 1233 20TH STREET, NW, SUITE 700 WASHINGTON, DC 20036-2680				
EXAMINER				
COMLEY, ALEXANDER BRYANT				
ART UNIT		PAPER NUMBER		
3746				
MAIL DATE		DELIVERY MODE		
06/08/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Response to Arguments

1. Applicant's arguments filed May 19th, 2009 have been fully considered but they are not persuasive. The Examiner's responses can be seen below.
2. In regards to Applicant's argument that the slide valve of Kountz et al. does not constitute a slide valve member that forms a variable inner ratio valve as claimed, the Examiner must respectfully disagree. As previously stated in the analysis for Independent Claim 1, Kountz specifically discloses the use of the valve to directly control the completion time of a compression step within the compression chamber. In particular, Kountz states "A slide valve member 40 is provided for adjusting the volume of trapped gas in the working chambers prior to discharge (not "prior to compression", as Applicant has asserted) as a function of the pressure ratio across the compressor. The valve member 40 is longitudinally slidable within an axially extending recess 42 for varying the amount of trapped gas in the working chamber 34 prior to discharge. The valve member is connected to one end of a rod 44, and the other end of the rod is mechanically coupled to a slide positioning motor 46 (FIG. 1) which moves the valve member 40 between extreme left and right hand positions. By movement of the valve to the left position in which the discharge port 36 is fully opened, the compression time is shortened and the pressure ratio between the suction and discharge sides of the compressor is decreased. On the other hand, when the valve member 40 is moved to the right position closing the discharge port 36 the compression time is lengthened and the pressure ratio is increased. Therefore, for any given or desired compression ratio of

the compressor the slide valve member 40 can be varied to effect this result by adjusting the volume of gas trapped in the working chamber 34 at the point of discharge." (Col. 4, Lines 13-35) From this disclosure alone, it is quite clear that the slide valve member of Kountz is specifically designed to vary the inner volume of the compression chamber prior to gas discharge in order to affect the length of the compression step. Moreover, Applicant has stated that Kountz's valve regulates the volume of gas prior to compression. However, this is not the case, since Kountz specifically states that his valve regulates the volume of gas prior to discharge (See Col. 4, Lines 23-27). And finally, Applicant has not specifically defined which "inner volume" of the compressor the variable inner volume ratio valve is designed to regulate. The Examiner must assert that the compression chamber seen in both Kountz and Shaw clearly constitutes an "inner volume" of the compressor.

PTO-892 Form

3. A supplemental PTO-892 form citing the Shaw et al. reference (US Patent No. 4,412,788) is being submitted herewith. The Examiner apologizes for any inconveniences this omission may have caused.

/Devon C Kramer/

Supervisory Patent Examiner, Art Unit 3746